

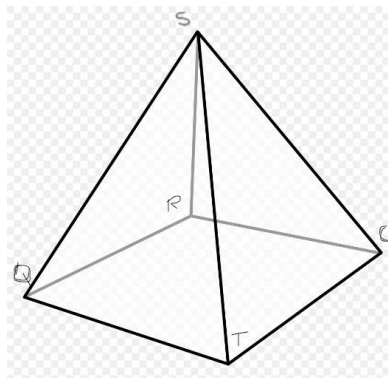
From triangle of iron to pyramid of paper straws ¹

Gareth Pugsley

Abstract

The iron triangle has been one of the foundations of the APM style of project management and a building block of learning for students moving through the PMQ course, studied by many each year and taught by me for the last 6 years.

The origin of this paper takes the idea put forward by Dr Roger Atkinson (Atkinson, 1999) and the changing of the iron triangle of project management. That being cost, quality and time. Within this paper he speaks about this being too fixed and the possible use for adding or replacing one with stakeholders.



Rational

The justification for a change in the 3 points on the triangle has been seen in enamour journals such as (Reynolds, 2015) “ideas of ‘impact’ are coupled with a narrow use of the contingency approach, some less helpful ‘triangulated’ relationships might be evident.”

Literature review

The reason for the fourth member of the iron triangle of project management being risk is as follows (Šeduikis, 2024) the concept of complexity being the justification for the idea.

The justification for this radical change from the iron triangle is simple. The concept of scope creep is defined as the extras meant to divert from a projects main goal and to reduce this from happening, which in my view is the main reason for project failure. This concept to be used as a diagram follows (Pollack, Helm, Adler, 2018) from drawing on a database of 109,804 records from 1970 to 2015. Three corpora were constructed, representing the project management and Time, Cost, and Quality Management literature. Time and Cost are consistently identified as part of the Iron Triangle. The use

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of 3d allows the ability to imagine the result of the addition input having on the 3 but in a visual way having a great impact and more obvious in this manner than the 2d current. With stakeholders being the main cause of creep yet unable to see, but also the bases of what the project is about or for I have added them to the diagram. I have also added risk which is the other reason when not addressed or seen, the impact can cause projects to fail (Akoh, Sun, Ogunlana, Mahmud,2024)

As stakeholders' downward pressure of change causes the impact to be catastrophic. If the needs to the stakeholder are downwards equal and take into consideration the 4 then no issues should arise. (Wicaksono, Setiawan, 2024)

The very fact that the original paper speaks of type 2 mistakes, and these could easily give weight to the reasoning behind this new concept as it should be tested to see if this does make a positive change. Now this concept of adding parts, topics to the iron bases has of late become popular. (Aljaber, 2024) with the differ of triangles dependant on methodology from liner to agile shape adds resources rather than quality to (Vahididi, Greenwood, 2009) their variation of shapes from David star to quadrantal and 5 pointe star. Why do these not meet what this study thinks it should. All these are 2 dimensional with only an ability to move in one direction if any item changes and so are restrictive. This restrictiveness too simplifies the issues and impacts that stakeholders can hold on a project and the directions scope creep can be pushed.

With the pyramid style it becomes obvious from the start the influence strength and impact. The impactive forces that they put in the other diagrammatic styles miss the point of the whole concept. That is not only to show the foundation on which a project should concentrate but also the fact that a project force will change through its life and if management and made to push in an equal amount the bend or shape change will not be catastrophic but show where to put the needed resources in order to control this. This point of the triangle showing the effect is what (morris&semmer,2008) paper talks about so well and gives the reasoning for the pyramid more backing.

Why should we even care about changing any of this is a very valued question from the reader. To this I would suggest a selection of answers. First why not try new things? If we stay in one mode and never look to change, we stagnate (Dron,2024) also the other methodology, what makes them wrong? If we look at some of the other concepts, they all fail to address risk. Now risk is the one constant in projects that is missed from all of theirs. Why? Well, it seems to be that they forget that with stakeholders come risk, with time comes risk, with quality comes risk. It is the one cog within the project machine that interacts with all the others.

Now the date on this comes from lit and secondhanded but with luck it sets the said of new ideas and how to review the ideas and not get set.

What this study propose is this, take that additional fourth vector to project control and add one more vertical addition; now this makes the reader start thinking in three dimensions rather than a linear flat idea. Nonlinear thinking style consists of seven distinct, yet interrelated dimensions: intuition, creativity, values, imagination, flexibility,

insights, and emotions. (Groves, Vance, 2015). These extra ways of looking at the work can do nothing but help with idea productions and thereby avoidance of risks and issues. The reasoning for this radical change from the iron triangle are simple. The concept of scope creep which this study is meant to help demonstrate to project participants in a more visual acceptable way and reduce this from happening does not work in my view the main reason for this concept to be used as a diagram (Smith, 2021).



This diagram requires the ability to imagine the result of the additional input having on the 3. With stakeholders being the main cause of creep yet unable to see or the stakeholders unable to see their own impact. But also the bases of what the project is about or for, I have added them to the diagram. I have also added risk which is the other reason when not addressed or seen the impact can cause projects to fail. (Hubbard,2020)

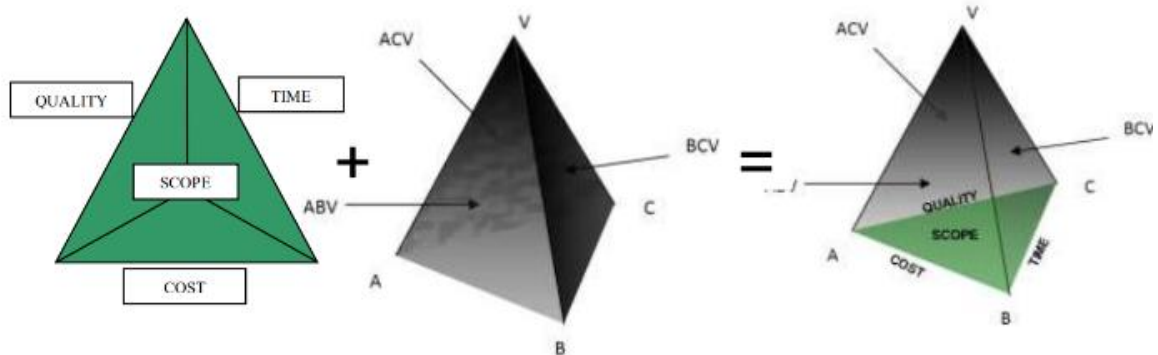
As stakeholders' downward pressure of change causes the impact to be catastrophic. If the needs to the stakeholder are downwards equal and take into consideration the 4, then no issues should arise. (Pollack, Helm, Adler, 2018) looked at how the triangle has changed but this was nearly 6 years ago and a lack studies since or many before on this very foundation.

The very fact that the original paper speaks of type 2 mistakes, and these could easily give weight to the reasoning behind this new concept as it should be tested to see if this does make a positive change. Now this concept of adding parts, topics to the iron bases has of late become popular. (Pollack, Helm, Adler, 2018) with the differ of triangles dependant on methodology from liner to agile shape adds resources rather than quality to (Zwikael, Smyrk,2019) their variation of shapes from a David star to quadrantal and 5 pointe star. Why do these not meet what this study thinks it should. With all these they are 2 dimensional with only an ability to move in one direction if any item changes and so are restrictive. This restrictiveness too simplifies the issues and impact stakeholders can hold on a project and the directions scope creep can be pushed. With the pyramid style it becomes obvious from the start the influence strength and impact. The impactful forces that they put in the other diagrammatic styles miss the point of the whole concept. That is not only to show the foundation on which a project should concentrate but also the fact that a project force will change through its life and if management and made to push in an equal amount the bend or shape change will not be catastrophic but show

where to put the needed resources in order to control this. This point of the triangle showing the effect is what the (Ebbesen, Hope, 2013) paper talks about so well and gives the reasoning for the pyramid more backing.

Why should we even care about changing any of this is a very valued question from the reader. To this I would suggest a selection of answers. First why not try new things? If we stay in one mode and never look to change, we stagnate (Pauwelyn, Wessel, Wouters, 2014) also the other, methodology what makes them wrong. If we look at some of the other concepts, they all fail to address risk. Now risk is the one constant in projects that is missed from all of theirs. Why? Well, it seems to be that they forget that with stakeholders come risk, with time comes risk, with quality comes risk. It is the one cog within the project machine that interacts with all the others.

How relevant are soft skills to project success?



Room, C., 2024. Iron Triangle. *system*, 9(17), p.48.

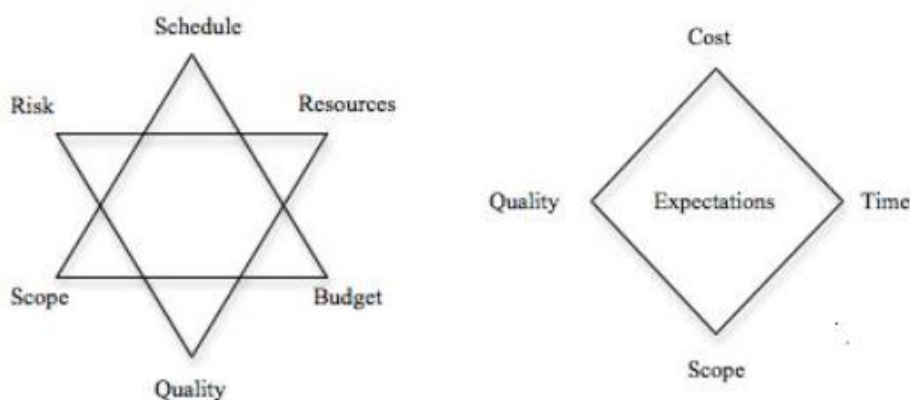


Fig. 3. (a) 'Triple Constraint' in Project Management (PMI, 2009);
 (b) The Project Management Diamond

“Comments suggest that the Iron Triangle does indeed need to be updated to consider a broader range of critical constraints. One commenter argues that the Iron triangle should be broken up and a 360-degree understanding of what project success should be created instead. Another example is put forward by (Haughey, 2008) who describes the ‘Project Management Diamond’ (see Figure 3 (b)). Here quality is seen as a critical constraint that cannot be neglected and should be given equal importance alongside time, cost and scope.” (Ebbesen, Hope, 2013). The PMI were looking at the idea to change the triangle with the thinking the star shape. With reasoning in the document referenced here it gives backing to the idea of not only a new type of shape but also the adding of Risk to the group.

Conclusion

In order for project management to move forward as most of it has within the last 5 years, we need to push all sections; this study suggests that means from the foundations up in order to get the best or better plans /methodology to use.

The study recommends opening this idea to testing to see if there is any quantifiable increase in ability to reduce impact and scope creep. With project management changing over the last 5 years with agile and scrum and praxis and many variations becoming mainstream then it makes sense that we look to check that the foundations are not getting stagnated in older thinking and still stand up to modern ideas.

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Gareth Pugsley is a fellow of the Association for Project Management (APM) and head of the APM Risk Interest network. He is an APM teacher of 6 years to apprentices and has been published previously in the PM World Journal. He holds 2 masters and undergrad degrees, all in project management, and looks forward to building a reputation in this field. He can be contacted at www.learningcurvegroup.co.uk